IOT BASED SAFETY GADGET FOR CHILD SAFETY MONITORING AND NOTIFICATIONS

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INTRODUCTION:

The internet of things or IoT, is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers (UIDs) and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.A thing in the internet of things can be a person with a heart monitor implant, a farm animal with a biochip transponder, an automobile that has built-in sensors to alert the driver when tire pressure is low or any other natural or man-made object That can be assigned an Internet Protocol (IP) address and is able to transfer data over a network.

LITERATURE REVIEW:

[1] Safety of a child in a large public event is a major concern for event organizers and parents. This concern proposes an architecture model of the IoT-enable smart child safety tracking digital systems. This IoT-enabled digital system architecture, process, and technology architecture elements, and their relationships for the complex IoT-enable smart child safety tracking digital system .
 Advantages: IoT-enable smart child tracking digital system to assist with the safety of a child during public events. The proposed model includes a number of technologies from the digital ecosystem such as IoT, Cloud, Mobile and GPS.
Disadvantages: There are a number of options for customizing the architecture such as the use of a tracking pin, which can be easily clipped onto the child's clothing. Thus, future research can be conducted to analyze alternate tracking options and architecture design patterns that could replace GPS with low cost RFIDs or iBeacons.

[2] Real-time monitoring of data is achieved by wirelessly sending sensor data to an open source Cloud Platform. Analysis of the data is done on MATLAB simultaneously. This device is programmed to continuously monitor the subject's parameters and take action when any a dangerous situation presents itself.
Advantages: The machine learning algorithms used make the device intelligent and the accuracy of which increases with continued use.
Disadvantages: Incorporate the advancements made in the field of wearable electronics to develop a more compact device that could possibly be integrated into clothing. Tackle the Concern that arises because of the requirement of the internet at all points

[3]Now-a-days attacks on children are increasing at an unprecedented rate and the victims are in dangerous conditions, where they are not allowed to contact the family members. The technology that offers "Smart Child Safety" for children by using GSM ,Sensors,MEMS,Temperature and panic button using IOT.

Advantages: This planned mechanism provides a better methodology to view and track the location of the children in terms of latitude and longitude which can be additionally tracked using google maps.

Disadvantages: The system may be enhanced by adding a camera application. Since the proposed system can detect the violence with good accuracy, for better performances,
In the future it can be implemented with raspberry pi and lily pad can also be added.

[4]In the finding mode, the CCMF framework can cooperatively find missing children equipped with wearable devices consisting of mobile iBeacon and 3-axis accelerometer modules through crowd sourced sensing networks formed by smartphone users with outdoor GPS and indoor IoT localization.According to relevant research, CCMF is the first children monitoring and finding solution that can detect holding-up postures of a target child and provide the guiding path to a lost child through crowdsourced sensing networks.

Advantages: In the monitoring mode, theCCMF framework can prevent young children from being taken away by strangers/people with bad intentions.

Disadvantages: In particular, the feasibility and superiority of framework are further verified through the implemented iOS-based crowdsourced children monitoring and finding prototypes with Arduino wearable devices and mobile/static iBeacon nodes.

[5]child safety and tracking is of utmost importance as children are the most vulnerable.
With increasing crime rates such as child kidnaping, child trafficking, child abuse and so on, the need for an advanced smart security system has become a necessity. With this motivation, a self-alerting "INTELLIGENT CHILD SAFETY SYSTEM USING MACHINE LEARNING IN IOT DEVICES" is developed to aid parents to monitor the location and body vitals of the children .

Advantages: Major advantage of this proposed system over other wearable
devices is that, it do not entirely depend on manual alerting by the victim, but can detect a distress situation automatically.

Disadvantages: The system size has to be reduced and the efficiency could be developed further for better performance.

[6]Vestures are essential for babies, All things considered; many ages of posterity have
Observing wellbeing parameters of toddlers, for example, breath designs, oxygen level, rest movement is mandatory. A canny baby monitoring is proposed based on internet of things to accomplish the remotely checking of various wellbeing parameters and notifying the persons who take care of the child.

Advantages: This framework consist of PIR sensor,flexi sensor,and temperature sensor which totally secures the child from unfavourable occasions.

Disadvantages:Additional administrations like drug update,health bolster,and well being,physiological parameters can be included.

[7] Smart education is the constituent of smart cities.Smart education is the use of computers in the classroom.There are many other factor to increase the child's quality of education.One part is the amount of time the child spends on a bus as many students use buses for schools and colleges.Bus tracking system which shows all bus tracking modules with sensors ,it shows the real time tracking of buses to the parents.

Advantages: Tracking system could be used by individuals.GPS devices are afforablenowadays and are not limited to big enterprises or government agencies.

Disadvantages: An RFID technology can also be added for providing information on the number of passengers in a bus at any time and provides information on the number of vacant seats.

[8]In the real world, children's safety is a huge question mark in everyone's mind. The Hybrid model on the proposed solution to track the child environment.The model to compose all Iot ideas with 'Alcohol Smell and Smoke'sensing module to provide the best application to providing complete care of children .the child can be tracked even parents are in a remote place.

Advantages: The main focus of this model is to secure child's life with the help of internet of things and sensors.

Disadvantages: The components size has to be reduced to make it as a wearable one.

[9]With the emergence of the Internet of Things (IoT) technology, in addition to Radio Frequency Identification (RFID), developing and implementation of a comprehensive low-cost system based on IoT that allows schools, parents, and authorities to track the movement of children while in school buses or being transported in private vehicles in real time.

Advantages: Evolution of the Information and CommunicationTechnologies (ICT) through ubiquitous computing and It led to a plethora of intelligent systems. These systems offer robust, real time, and fast communication services for sharing information and data over the cloud such as the scenario of smart cities.

Disadvantages: The scope of the work can further be improved by incorporating diverse machine learning tools for better tracking, more flexibility, and additional useful features.

[10] Parents can send SMS with some keywords and the device replies back. The device Can detect the child's approximate location, it can detect the body temperature and the surrounding temperature, humidity and also the heartbeat of a child. For the emergency situation, the device would have some measures like an alarm buzzer.

Advantages: Device can detect the child's approximate location , it can detect the body temperature and the surrounding temperature to approximate the child's physical condition. If a child has some allergy in high humid conditions then it can send an alert to notify the situation by measuring the humidity.

Disadvantages: Filtering of interference signals is required for better effectiveness. It will send data to the parents in a regular interval as well as on trigger based like when the parent requests for data and when the data exceeds the particular threshold value.

[11]The proposed system provides a more secure alert mechanism and facilitates the user's at school and during mobility to the school or home. The proposed system evaluates in terms of data delivery, time, and response alert parameters .It proposes a secure system for internet of schools things (S-IoST) for smart schools.

Advantages: Smart school have gained popularity due to their integrated and technological-based services and systems.

Disadvantages: Limitation of this proposed system is the kid age because this system needs awareness to handle.

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